

CLAIMS

What is claimed is:

1. A method of cleaning a process chamber, comprising the steps of:

providing a gas mixture comprising nitrous oxide and nitrogen trifluoride in a nitrous oxide:nitrogen trifluoride volume ratio of at least about 0.2;

introducing said gas mixture into the process chamber;
and

generating a plasma from said gas mixture.

2. The method of claim 1 further comprising the step of providing an inert carrier gas in said gas mixture.

3. The method of claim 1 wherein said nitrous oxide:nitrogen trifluoride volume ratio is from at least about 0.2 to about 0.8.

4. The method of claim 3 further comprising the step of providing an inert carrier gas in said gas mixture.

5. The method of claim 2 wherein said inert carrier gas comprises argon.

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6. The method of claim 5 wherein said nitrous oxide:nitrogen trifluoride volume ratio is from at least about 0.2 to about 0.8.

7. The method of claim 2 wherein said inert carrier gas comprises helium.

8. The method of claim 7 wherein said nitrous oxide:nitrogen trifluoride volume ratio is from at least about 0.2 to about 0.8.

9. A method of cleaning a process chamber, comprising the steps of:

providing a gas mixture comprising nitrous oxide and nitrogen trifluoride in a nitrous oxide:nitrogen trifluoride volume ratio of at least about 0.8;

introducing said gas mixture into the process chamber;
and

generating a plasma from said gas mixture.

10. The method of claim 9 further comprising the step of providing an inert carrier gas in said gas mixture.

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11. The method of claim 10 wherein said inert carrier gas comprises argon.

12. The method of claim 10 wherein said inert carrier gas comprises helium.

13. A method of expediting cleaning of a process chamber using nitrogen trifluoride, comprising the steps of:

forming a gas mixture by adding nitrous oxide to the nitrogen trifluoride in a nitrous oxide:nitrogen trifluoride volume ratio of at least about 0.2;

introducing said gas mixture into the process chamber;
and

forming nitric oxide radicals and fluoride radicals in the process chamber by generating a plasma from said gas mixture.

14. The method of claim 13 further comprising the step of providing an inert carrier gas in said gas mixture.

15. The method of claim 13 wherein said nitrous oxide:nitrogen trifluoride volume ratio is from at least about 0.2 to about 0.8.

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16. The method of claim 15 further comprising the step of providing an inert carrier gas in said gas mixture.

17. The method of claim 13 wherein said nitrous oxide:nitrogen trifluoride volume ratio is at least about 0.8.

18. The method of claim 17 further comprising the step of providing an inert carrier gas in said gas mixture.

19. The method of claim 18 wherein said inert carrier gas comprises argon.

20. The method of claim 18 wherein said inert carrier gas comprises helium.